

Joints classification

- Shoulder joints
- Elbow joints
- Wrist joints
- Hip joints
- Knee joints
- Ankle joints

Sites

Synovial Joints

Features

- The articular surfaces are covered by hyaline cartilage.
- They have cavity between the ends of bones
- The cavity is filled by synovial fluid that facilitates the movements of the joint.
- The synovial fluid is secreted by a synovial membrane.
- The joint is surrounded by fibrous capsule.
- Outside the capsule, a group of ligaments which support the joint.
- They permit wide range of movement.

Types

CARTILAGINOUS JOINTS

Primary cartilaginous joint

- The bones are connected together by hyaline cartilage
- It ossified with age.
- They are temporary joints.
- They permit no movement
- Examples, epiphyseal plate of long bone.

Secondary cartilaginous joint

- The bones are connected together by fibrocartilage
- It is never ossified
- They are permanent Joints.
- They permit slight movement
- Examples, Symphysis pubis, intervertebral discs

FIBROUS JOINTS

Sutures (synarthrosis) of the skull
It ossifies with age

Gomphosis
It is a peg (teeth) and socket (cavity of the jaw) variety
do not ossify

Syndesmosis
two adjacent bones are linked by strong membrane or ligaments
Middle and inferior tibiofibular joints
-Middle radioulnar joint
It does not ossify.

There are no movements.
The bones are connected together by fibrous tissue.

Simple joints: 2 articulating bones
E.g. shoulder joint or hip joint.

Compound joints: more than 2 bones
E.g. elbow joint or ankle joint.

Complex joints: intra-capsular structures
E.g. knee joint.

2 According to articular parts

1 According to degree of movements

Plane Joints: allows only gliding movements
E.g. intercarpal & intertarsal joints

Angular movements: form angles between the articular bones
E.g. elbow and knee joints. (flexion and extension)

Circumduction: permit successive angular movements.
E.g. Shoulder, and hip joints.

3 According to the axes of movement

Uniaxial joints

- Hinge joints**: allow movements are flexion and extension
E.g. elbow and Interphalangeal Joints
- Pivot joints**: allow movements are rotation
E.g. Superior and inferior radio-ulnar joints, Atlantoaxial joint

Biaxial joints

- Ellipsoid joint**: Flexion & extension around horizontal axis, Adduction & abduction around antero-posterior axis
E.g. Wrist joint and Metacarpophalangeal joint
- Saddle joint**: Flexion, extension around horizontal axis, Adduction, abduction around antero-posterior axis, Slight rotation
E.g. Carpometacarpal joint of the thumb (N.B: Sternoclavicular Joint is a modified saddle synovial joint)
- Modified hinge**: Flexion, extension around horizontal axis, Slight Rotation around the longitudinal axis
E.g. knee joint

Movements occur around more than 2 axes
Polyaxial Joints: called ball (rounded head) & socket (concave surface) joints. allow all types of movements.
E.g. shoulder & hip joints